

Name _____

Meanings for Multiplication

PS 3-1

U.S. Flags The design of the U.S. flag has changed many times because of the growing number of states in the United States. The number of stars on the flag at particular dates in history is described in the exercises below.

1. George Washington's flag of 1775 had 3 rows of 3 stars and 2 rows of 2 stars. How many stars did the flag have altogether?

2. The U.S. flag of 1818 had 4 rows of 5 stars. How many stars did the flag have altogether?

3. The U.S. flag of 1865 had 3 rows of 8 stars and 2 rows of 6 stars. How many stars did the flag have altogether?

4. The U.S. flag of 1912 had 6 rows of 8 stars. How many stars did the flag have altogether? Draw an array for a flag that has the same number of stars but shows 4×12 .

5. **Writing in Math** Write a multiplication and addition sentence you could use to show how 50 stars can be arranged to form an array on a flag. Explain why they are both correct.



Determine which letter best answers each question.

- 1) Which number is a factor of 24 but not a multiple of 6?

A. 7
B. 8
C. 10
D. 12

- 2) Which number is a factor of 20 but not a multiple of 5?

A. 4
B. 6
C. 8
D. 10

- 3) Which number is a factor of 12 but not a multiple of 3?

A. 4
B. 6
C. 8
D. 9

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

- 4) Which number is a factor of 22 but not a multiple of 11?

A. 2
B. 4
C. 5
D. 6

- 5) Which number is a factor of 12 but not a multiple of 6?

A. 4
B. 8
C. 9
D. 10

- 6) Which number is a factor of 20 but not a multiple of 2?

A. 4
B. 5
C. 10
D. 12

- 7) Which number is a factor of 15 but not a multiple of 3?

A. 4
B. 5
C. 6
D. 8

- 8) Which number is a factor of 16 but not a multiple of 8?

A. 4
B. 6
C. 10
D. 12

- 9) Which number is a factor of 22 but not a multiple of 2?

A. 4
B. 6
C. 7
D. 11

- 10) Which number is a factor of 14 but not a multiple of 7?

A. 2
B. 4
C. 8
D. 12

- 11) Which number is a factor of 14 but not a multiple of 2?

A. 3
B. 4
C. 5
D. 7

- 12) Which number is a factor of 21 but not a multiple of 3?

A. 2
B. 4
C. 5
D. 7

Name _____

Patterns in Multiplying by 0, 1, 2, 5, and 9

PS 3-2

Vehicle	Number of Wheels
Motorcycle	2
Unicycle	1
Automobile	4
Tricycle	3
Tractor-trailer	18

1. How many wheels are there on 9 motorcycles? _____
2. How many wheels are there on 47 unicycles? _____
3. How many wheels are there on 5 automobiles? _____
4. How many wheels are there on 9 tricycles? _____
5. How many wheels are there on 2 tractor-trailers? _____
6. What property of multiplication helped you solve Exercise 2?

7. What property of multiplication helps you know that $9 \times 2 = 2 \times 9$?

8. **Writing in Math** Explain how you know that in $? \times 4,358 = 0$, the ? will be 0.

Standard: 4.OA.4-1.0 - Determine whether a given whole number in the range 1–100 is...

Instructions:

1. Is 34 a multiple of 8?	2. Is 43 a multiple of 3?	3. Is 70 a multiple of 3?	4. Is 34 a multiple of 5?
5. Is 3 a multiple of 6?	6. Is 27 a multiple of 3?	7. Is 72 a multiple of 1?	8. Is 97 a multiple of 7?

9. Which answer choice is a multiple of 4?

Choose one: [35 | 32 | 38 | 37]

10. Which answer choice is a multiple of 2?

Choose one: [8 | 11 | 13 | 9]

11. Which answer choice is a multiple of 8?

Choose one: [50 | 56 | 59 | 62]

12. Which answer choice is a multiple of 5?

Choose one: [38 | 41 | 44 | 35]

Using Known Facts to Find Unknown Facts

P 3-3

Use breaking apart to find each product.

1.
$$\begin{array}{r} 7 \\ \times 3 \\ \hline \end{array}$$

2.
$$\begin{array}{r} 9 \\ \times 5 \\ \hline \end{array}$$

3.
$$\begin{array}{r} 8 \\ \times 2 \\ \hline \end{array}$$

4.
$$\begin{array}{r} 6 \\ \times 4 \\ \hline \end{array}$$

5. $4 \times 3 = \underline{\hspace{2cm}}$

6. $9 \times 3 = \underline{\hspace{2cm}}$

7. $8 \times 5 = \underline{\hspace{2cm}}$

8. $3 \times 6 = \underline{\hspace{2cm}}$

9. $6 \times 7 = \underline{\hspace{2cm}}$

10. $7 \times 9 = \underline{\hspace{2cm}}$

- 11.
- Number Sense**
- Sara traced circle stencils for her project.

She needs 7 rows of 9 circle stencils. She thought that

7 rows of 9 is the same as 3 rows of 9 and 2 rows of 9.

Is this correct?

Reasoning Compare. Use $<$, $>$, or $=$ to fill in each blank \bigcirc .

12. $6 \times 9 \bigcirc 9 \times 6$

13. $9 \times 4 \bigcirc 6 \times 6$

14. $8 \times 8 \bigcirc 7 \times 9$

Test Prep

15. Which of the following is equal to the product of
- 3×3
- ?

A. 9×1

B. 3×1

C. 4×2

D. 6×3

- 16.
- Writing in Math**
- Explain how the three multiplication sentences are related.

12×2

8×3

6×4

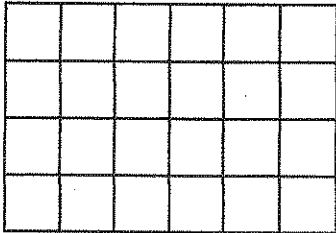
Name _____

How Does Your Garden Grow?

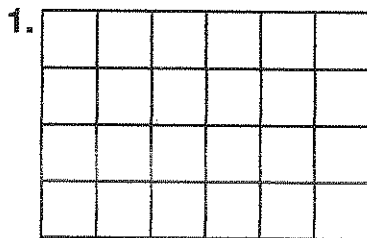
E 3-3
REASONING

Area is the name for the number of square units that are in a given space. You can figure out the area of a rectangle as you would an array. You can also break apart a rectangle to form different combinations and still have the same area.

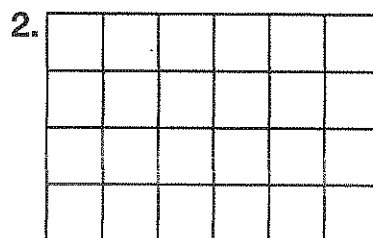
Here is Mary's garden: $4 \times 6 = 24$ square units.



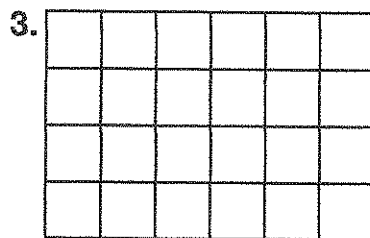
Draw lines and write the first letter of the flower to show several possible planting plans.



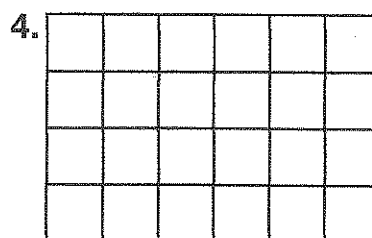
$2 \times 6 =$ tulips
 $2 \times 4 =$ roses
 $2 \times 2 =$ marigolds



$4 \times 4 =$ tulips
 $2 \times 2 =$ roses
 $2 \times 2 =$ marigolds



$3 \times 4 =$ tulips
 $1 \times 6 =$ roses
 $3 \times 2 =$ marigolds



$4 \times 5 =$ tulips
 $1 \times 3 =$ roses
 $1 \times 1 =$ marigolds

Name _____

Recycling Numbers

**E 3-5
DATA**

Miles and Cynthia participated in a weeklong recycling project. Cynthia collected 4 cans every day, and Miles collected 3 cans every day.

1. Fill in the table to show how many cans each student has collected by the end of each day.

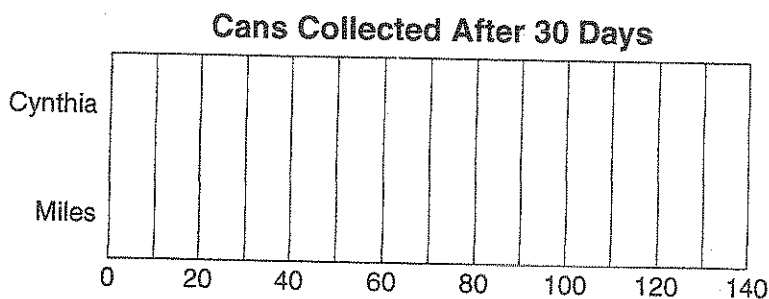
Days	1	2	3	4	5	6	7
Miles	3	6					
Cynthia	4	8					

2. At the end of the week, how many cans did Cynthia collect?

3. At the end of the week, how many cans did Miles collect?

4. If the pattern had continued for another week, a total of 14 days, how many cans would Cynthia have collected? How many would Miles have collected?

5. The project was such a success, it was continued for 30 days. Complete the bar graph to compare the total cans collected by Miles and Cynthia.



Name _____

Meanings for Division

P 3-6

Draw pictures to solve each problem.

1. There are 12 small gift bags. Each bag can hold 1 toy and some stickers. There are 36 stickers. If an equal number of stickers is put in each bag, how many stickers will be in each bag?

2. One egg carton holds 12 eggs. How many cartons are you able to fill with 60 eggs?

3. There are 21 students in Mr. Tentler's class. The students divided themselves evenly into 3 groups. How many students are in each group? _____

Test Prep

4. Calvin read an 18-page chapter in his social studies book in 2 hours. If he read the same number of pages each hour, how many pages did he read per hour?
A. 3 pages B. 6 pages C. 9 pages D. 12 pages
5. **Writing in Math** The class is planning a party. The pizza restaurant cuts each pizza into 8 slices. There are 32 students. How many pizzas does the class need to order for each student to have a slice? Explain.

Name _____

Baby-Sitting in the Neighborhood

E 3-6
DECISION MAKING

Jennifer baby-sits for some of the families in her neighborhood. She wants to decide how she can earn the most money. She has made a chart that shows how long she usually baby-sits for a family and how much she is paid for her job.

Family	Hours	Amount Paid
Roberts	6	\$30
Robinsons	6	\$24
San Giacomos	8	\$40
Lings	5	\$35
Oberlins	7	\$42

1. Which family pays the most per hour? What is the hourly rate?

2. Which family pays the least per hour?

3. Which would pay more, 8 hr of baby-sitting for the Oberlins or 7 hr of baby-sitting for the San Giacomos?

4. On one Friday night, Jennifer is asked to baby-sit for two different families. The Robinsons need her for 5 hr, and the Lings want her to baby-sit for 4 hr. If Jennifer can only take one job and wants to make the most money, which job should she take? How much will she earn?

5. On a different Friday night, the Roberts offer Jennifer a 5-hour baby-sitting job with a \$4 tip, and the Robinsons offer Jennifer an 8-hour baby-sitting job. Which job should Jennifer take? How much more will she earn?

Name _____

Relating Multiplication and Division

R 3-7

Multiplication and division are related, just like addition and subtraction are related.

This is the fact family for 5, 6, and 30:

$$5 \times 6 = 30 \qquad 30 \div 6 = 5$$

$$6 \times 5 = 30 \qquad 30 \div 5 = 6$$

Complete each fact family.

1. $2 \times \underline{\hspace{2cm}} = 10$

$$10 \div 5 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 10$$

$$10 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

2. $9 \times \underline{\hspace{2cm}} = 27$

$$27 \div 3 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 27$$

$$27 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

3. $8 \times \underline{\hspace{2cm}} = 72$

$$72 \div 8 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 72$$

$$72 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

4. $6 \times \underline{\hspace{2cm}} = 48$

$$48 \div 8 = \underline{\hspace{2cm}}$$

$$\underline{\hspace{2cm}} \times \underline{\hspace{2cm}} = 48$$

$$48 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

Write a fact family for each set of numbers.

5. 7, 4, 28 _____

6. 5, 8, 40 _____

7. **Number Sense** What multiplication facts are part of the fact family for $12 \div 3 = 4$?

Name _____

Division Facts

P 3-8

1. $9 \div 3 =$ _____ 2. $21 \div 7 =$ _____ 3. $30 \div 5 =$ _____
4. $56 \div 8 =$ _____ 5. $72 \div 9 =$ _____ 6. $48 \div 8 =$ _____
7. $9 \overline{)81}$ _____ 8. $6 \overline{)54}$ _____ 9. $7 \overline{)49}$ _____ 10. $3 \overline{)27}$ _____

11. **Reasoning** If $44 \div 4 = 11$, what is $44 \div 11$? Explain.

12. Taylor bought a CD for \$10. How many CDs can she buy for \$40? _____

13. Christian placed an order with the book club. He purchased 2 books for \$3 each and a stamp-making kit that costs \$5. What was his total? _____

Test Prep

14. Which is the quotient of $48 \div 6$?

A. 8

B. 6

C. 4

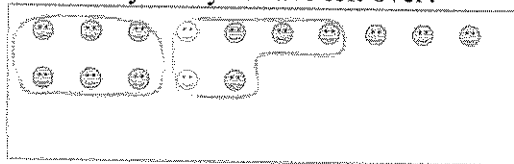
D. 9

15. **Writing in Math** If $9 \times 8 = 72$, then 72 divided by 8 is what number? Explain how you know without actually finding the quotient.



Use the shapes provided to answer the questions.

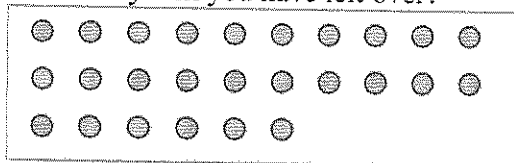
- Ex) There are 15 shapes below. How many groups of 6 can you make with them?
How many will you have left over?



- 1) There are 27 shapes below. How many groups of 5 can you make with them?
How many will you have left over?



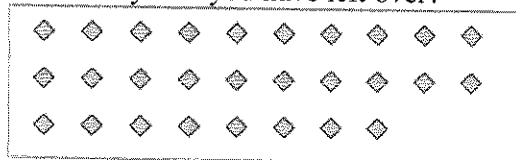
- 2) There are 26 shapes below. How many groups of 4 can you make with them?
How many will you have left over?



- 3) There are 23 shapes below. How many groups of 9 can you make with them?
How many will you have left over?



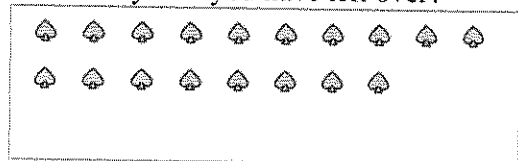
- 4) There are 28 shapes below. How many groups of 2 can you make with them?
How many will you have left over?



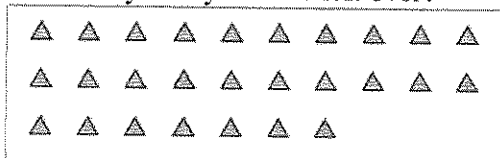
- 5) There are 14 shapes below. How many groups of 4 can you make with them?
How many will you have left over?



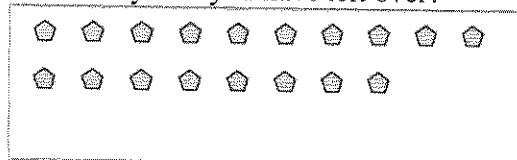
- 6) There are 18 shapes below. How many groups of 5 can you make with them?
How many will you have left over?



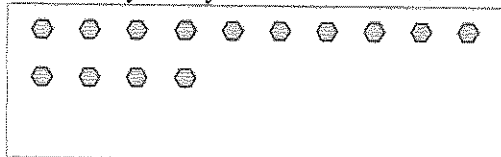
- 7) There are 27 shapes below. How many groups of 6 can you make with them?
How many will you have left over?



- 8) There are 18 shapes below. How many groups of 3 can you make with them?
How many will you have left over?



- 9) There are 14 shapes below. How many groups of 3 can you make with them?
How many will you have left over?

**Answers**Ex. 2Ex. 3

1a. _____

1b. _____

2a. _____

2b. _____

3a. _____

3b. _____

4a. _____

4b. _____

5a. _____

5b. _____

6a. _____

6b. _____

7a. _____

7b. _____

8a. _____

8b. _____

9a. _____

9b. _____

Name _____

Special Quotients

R 3-9

There are special rules for dividing numbers by 1 and by 0.

Rule: A number divided by 1 is that number.

Examples: $4 \div 1 = 4$

$55 \div 1 = 55$

Rule: A number divided by itself (except 0) is 1.

Examples: $17 \div 17 = 1$

$135 \div 135 = 1$

Rule: Zero divided by a number (except 0) is 0.

Examples: $0 \div 4 = 0$

$0 \div 15 = 0$

Rule: You cannot divide a number by zero.

Examples: $7 \div 0$ cannot be done.

$12 \div 0$ cannot be done.

1. $0 \div 2 =$ _____

2. $4 \div 4 =$ _____

3. $7 \overline{)0}$ _____

4. $9 \overline{)9}$ _____

5. $0 \div 3 =$ _____

6. $10 \overline{)10}$ _____

7. $11 \overline{)0}$ _____

8. $11 \div 1 =$ _____

Compare. Use $>$, $<$, or $=$ for each \bigcirc .

9. $6 \div 6 \bigcirc 3 \div 3$

10. $7 \div 1 \bigcirc 8 \div 8$

11. $0 \div 5 \bigcirc 3 \div 1$

12. $0 \div 4 \bigcirc 0 \div 9$

13. $5 \div 5 \bigcirc 0 \div 5$

14. $7 \div 7 \bigcirc 9 \div 9$

15. $8 \div 1 \bigcirc 0 \div 8$

16. $9 \div 9 \bigcirc 9 \div 1$

17. $0 \div 12 \bigcirc 12 \div 1$

18. $0 \div 11 \bigcirc 0 \div 15$

19. **Number Sense** If $a \div b = 0$, what do you know about a ? _____

Name _____

Special Quotients

P 3-9

1. $0 \div 10 =$ _____ 2. $7 \div 1 =$ _____ 3. $8 \div 8 =$ _____

4. $9 \div 9 =$ _____ 5. $0 \div 5 =$ _____ 6. $5 \div 1 =$ _____

7. $1 \overline{)4}$ _____ 8. $8 \overline{)0}$ _____ 9. $3 \overline{)3}$ _____ 10. $1 \overline{)6}$ _____

11. **Number Sense** If $x \div 9 = 1$, how do you know what x is? Explain.

12. Kenneth has 22 math problems to do for homework. He has 12 problems done. How many more problems does he have left? If he completes 1 problem every minute, how many more minutes does he have to work?

13. There are 8 people who would like to share a box of granola bars that contains 8 bars. How many granola bars does each person get if they share equally?

Test Prep

14. Which is the quotient of $20 \div 20$?

A. 20

B. 2

C. 1

D. 0

15. **Writing in Math** Write a rule for the following number sentence: $0 \div 7 = 0$.

Name _____

Multiplication and Division Stories

PS 3-10

Humane Societies Humane societies take care of homeless animals.

Humane Society

Animal/Item	Number
Dogs	6
Cats	8
Cages	4
Kennels	3

Use the information in the chart to write and solve a story problem for

1. $6 \div 3$. _____

2. 4×2 . _____

3. 6×1 . _____

4. **Writing in Math** A checkerboard or chessboard has 64 squares. Write a multiplication or division story regarding the board.

Name _____

PROBLEM-SOLVING SKILL

P 3-11

Multiple-Step Problems

Write and answer the hidden question or questions.
Then solve the problem. Write your answer in a
complete sentence.

1. Mario and his family went to the county fair. They bought 2 adult passes and 3 children's passes. What was the total cost for the family?

County Fair Admission	
Adults	\$5.00
Students	\$3.00
Children	\$2.00

2. A bus has 12 rows with 1 seat in each row on one side and 12 rows with 2 seats in each row on the other side. How many seats does the bus have altogether?

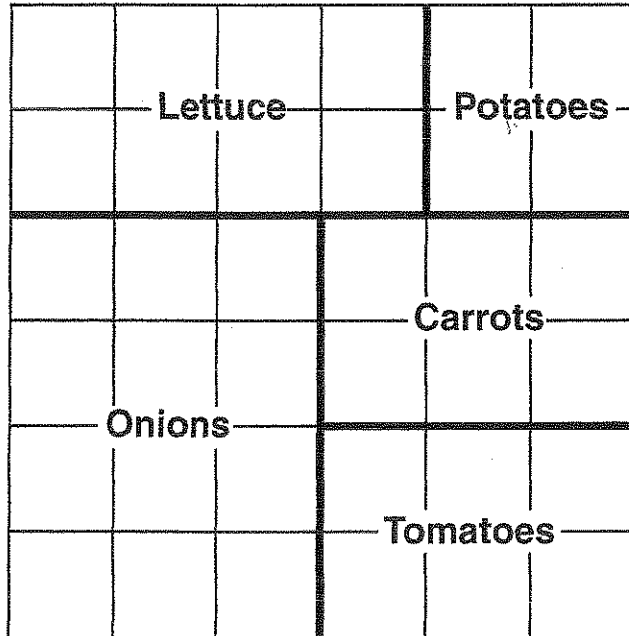
3. **Writing in Math** Write a problem about going to the laundromat that has a hidden question. A single load of laundry costs \$2 and a double load costs \$4. Solve your problem.

Name _____

Graphing Sales

E 3-11
REASONING

Fran grows vegetables in her garden, and then she sells them at the market. A diagram of Fran's vegetable patch and a price list for her vegetables are shown below.



Fran's Fresh Produce		
Carrots	2 lb	\$1
Onions	3 lb	\$2
Tomatoes	3 lb	\$5
Potatoes	2 lb	\$3
Lettuce	1 lb	\$2

- How many squares are in Fran's garden?

- Each square in Fran's garden yields 2 lb of vegetables. If Fran plants every square in her garden, how many pounds of vegetables will she be able to grow?

- Fran makes \$18 selling onions at the market. How many pounds of onions did she sell?

- A customer buys 6 lb of tomatoes, 4 lb of potatoes, and 4 lb of carrots. He pays with a \$50 bill. How much change should he get back?

word problems
cc 3-11

Yolanda made 117 cookies and 64 brownies for a bake sale. She put 9 cookies in each basket to sell. She put 8 brownies on each plate to sell. How many cookie baskets did Yolanda make?

What I Know	What I Need to Know
Number Sentence	Solve

Michael had 45 baseball cards. He received 3 more packages of baseball cards for his birthday. Each package had 50 baseball cards. How many total cards did Michael have?

What I Know	What I Need to Know
Number Sentence	Solve

Name _____

Writing and Evaluating Expressions

P 3-12

Evaluate each expression for $b = 6$.

1. $6b =$ _____ 2. $\frac{42}{b} =$ _____ 3. $5b =$ _____ 4. $\frac{b}{3} =$ _____

Evaluate each expression for $c = 4$.

5. $\frac{c}{2} =$ _____ 6. $12c =$ _____ 7. $8c =$ _____ 8. $\frac{16}{c} =$ _____

Evaluate each expression.

9. $(84 \div z) - 6$ for $z = 7$ _____ 10. $(48 \div h) \times 2$ for $h = 8$ _____

Draw a picture that shows the main idea. Then write and evaluate an expression to solve the problem.

11. Diedre helps read to the kindergarten class. She is assigned to q students. She reads for 10 min with each student. Write an expression to represent the total number of minutes Diedre reads with kindergarten students. Evaluate the expression for $q = 5$.

Test Prep

12. Solve.

$$24 \div n = 12$$

A. $n = 5$

B. $n = 4$

C. $n = 3$

D. $n = 2$

13. **Writing in Math** Keith wrote the expression $10d$ to represent the number of dimes in d dollars. Is Keith's expression correct? Explain.

Name _____

Divide and Conquer

E 3-8
ALGEBRA

Find the unknown value in the multiplication fact to help you complete the division fact. Write out both completed facts.

1. $6 \times m = 36$ $\frac{36}{6} = m$

2. $4 \times y = 28$ $\frac{28}{y} = 4$

3. $z \times 8 = 16$ $\frac{16}{8} = z$

4. $7 \times 8 = q$ $\frac{q}{8} = 7$

5. $9 \times r = 54$ $\frac{54}{r} = 9$

6. $10 \times s = 10$ $\frac{10}{10} = s$

7. In a soccer match, each team has 11 players. If 24 people are willing to play a game of soccer, are there enough players for two full teams? Write a multiplication and division sentence to show your answer.
- _____
- _____
- _____

Name _____

Find a Rule

P 3-13

Complete each table. Write the rule.

1.

In	7	6	5	4	3	n
Out	21	18	15	12		

2.

In	5	10	15	20	25	n
Out	1	2	3	4		

In one week, Lyle read 40 pages in his book and his dad gave him 5 stickers. The next week, Lyle read 16 pages and his dad gave him 2 stickers. The third week, Lyle read 56 pages and his dad gave him 7 stickers.

Pages	40	16	56	
Stickers	5	2	7	4

3. Complete the table to show how many pages Lyle had to read to receive 4 stickers from his dad.

4. Write a rule for the table.

Test Prep

5. What is the rule for the table at the right?

In	2	4	6	8	10
Out	14	28	42	56	70

- A. Divide by 7 B. Multiply by 7 C. Divide by 8 D. Multiply by 8

6. **Writing in Math** Complete the table to represent the pattern in figures. Write a rule.

Figure	1	2	3
Circles			

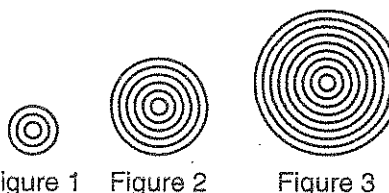


Figure 1 Figure 2 Figure 3



Function Machine - Rule

Name: _____

Determine which letter best represents the expression the function machine used.

Answers

- 1)

Input (R)	5	7	8	9	6
Output	47	67	77	87	57

 A. $R \cdot 10 - 3$ B. $R - 3$
C. $R \cdot 3$ D. $R \cdot 10$
- 2)

Input (W)	3	4	8	9	7
Output	10	11	15	16	14

 A. $W \cdot 7 + 7$ B. $W + 7$
C. $W \cdot 8 + 7$ D. $W + 12$
- 3)

Input (P)	8	6	1	10	4
Output	54	42	12	66	30

 A. $P \cdot 6 + 6$ B. $P \cdot 6$
C. $P \cdot 6 - 6$ D. $P \cdot 9 + 6$
- 4)

Input (N)	9	8	7	6	10
Output	57	50	43	36	64

 A. $N \cdot 6$ B. $N \cdot 7 - 6$
C. $N + 6$ D. $N \cdot 7 + 6$
- 5)

Input (Y)	8	7	10	6	4
Output	43	38	53	33	23

 A. $Y \cdot 3$ B. $Y \cdot 5 + 3$
C. $Y + 5$ D. $Y + 3$
- 6)

Input (M)	3	2	10	7	6
Output	30	20	100	70	60

 A. $M \cdot 10 - 2$ B. $M \cdot 11 + 2$
C. $M \cdot 10$ D. $M \cdot 10 + 2$
- 7)

Input (Q)	4	6	5	8	7
Output	20	30	25	40	35

 A. $Q \cdot 5$ B. $Q \cdot 6 - 10$
C. $Q \cdot 5 + 10$ D. $Q \cdot 10$
- 8)

Input (X)	3	10	6	1	5
Output	30	79	51	16	44

 A. $X \cdot 9$ B. $X \cdot 7 + 9$
C. $X \cdot 7 + 13$ D. $X \cdot 8 + 9$
- 9)

Input (Z)	5	9	10	7	6
Output	7	19	22	13	10

 A. $Z \cdot 3 - 8$ B. $Z \cdot 4 - 8$
C. $Z + 12$ D. $Z - 8$
- 10)

Input (J)	13	19	15	16	20
Output	5	11	7	8	12

 A. $J \cdot 8 + 8$ B. $J \cdot 8$
C. $J \cdot 8 + 12$ D. $J - 8$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____



Determine which number sentence best matches the function machine.

In	Out
84	87
59	62
3	6
81	84
17	20

1. If each input is 'Q', which rule could the function machine be using?

- A. $Q + 3$ B. $Q - 4$
C. $Q + 4$ D. $Q \times 3$

In	Out
6	12
22	28
39	45
72	78
23	29

2. If each input is 'Y', which rule could the function machine be using?

- A. $Y \div 6$ B. $Y \times 6$
C. $Y + 6$ D. $Y - 7$

In	Out
73	82
74	83
38	47
10	19
26	35

3. If each input is 'N', which rule could the function machine be using?

- A. $N + 9$ B. $N \times 9$
C. $N \div 9$ D. $N - 9$

In	Out
66	62
52	48
37	33
70	66
12	8

4. If each input is 'T', which rule could the function machine be using?

- A. $T - 4$ B. $T + 6$
C. $T \div 4$ D. $T - 6$

In	Out
7	63
3	27
6	54
9	81
4	36

5. If each input is 'H', which rule could the function machine be using?

- A. $H \times 9$ B. $H - 9$
C. $H - 10$ D. $H \div 9$

In	Out
21	7
30	10
6	2
33	11
12	4

6. If each input is 'S', which rule could the function machine be using?

- A. $S + 3$ B. $S + 3$
C. $S - 5$ D. $S - 3$

In	Out
33	43
11	21
79	89
9	19
75	85

7. If each input is 'Z', which rule could the function machine be using?

- A. $Z - 11$ B. $Z + 10$
C. $Z + 12$ D. $Z - 10$

In	Out
7	42
3	18
6	36
11	66
2	12

8. If each input is 'P', which rule could the function machine be using?

- A. $P \times 6$ B. $P - 6$
C. $P + 7$ D. $P + 6$

In	Out
87	85
79	77
27	25
64	62
75	73

9. If each input is 'U', which rule could the function machine be using?

- A. $U \div 2$ B. $U - 3$
C. $U + 2$ D. $U - 2$

Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

Problem	Write a number sentence.	Solve it!
<p>Arial bought some basketballs at a sports store. She spent a total of \$42. Each basketball cost \$7. How many basketballs did she buy?</p>		
<p>Lawrence and Robby sold candy bars and pickles at the concession stand. They sold a total of 30 items. If the boys sold 14 candy bars, how many pickles did they sell?</p>		
<p>A total of 32 people divided themselves into lines for the movie theater. If there were 8 people in each line, how many lines were there?</p>		

Standard: 4.OA.3-1.7 - Represent these problems using equations with a letter stand...

1. A stick is 5 m long. A rope is 4 times as long as the stick. If the rope is divided into 2 pieces, how many meters long is each piece of rope?
2. Alexandra bought a hat that costs 14 dollars and a watch that costs 6 dollars. At the counter she received a discount. If she paid only 15 dollars, how many dollars was the discount?
3. Wyatt bought a jacket that costs 12 dollars and a scarf that costs 18 dollars. At the counter he received a discount. If he paid only 21 dollars, how many dollars was the discount?
4. A bake sale has 5 brownies for sale. Each brownie was cut into 4 slices. Each slice was sold for \$7. What was the total amount earned for the sale of all the brownies?
5. Colton had \$65 to spend on 12 paintbrushes for his art class. After buying them, Colton had \$5 left. How many dollars did each of the paintbrushes cost?
6. Bentley had \$25 to spend on 5 paintbrushes for his art class. After buying them, Bentley had \$5 left. How many dollars did each of the paintbrushes cost?
7. A stick is 6 m long. A rope is 13 times as long as the stick. If the rope is divided into 3 pieces, how many meters long is each piece of rope?
8. The Fickett family drove a total of 587 miles, starting on Friday and ending on Sunday. They drove 182 miles on Friday and 260 miles on Saturday. How many miles did they drive on Sunday?

Standard: 4.OA.3-1.7 - Represent these problems using equations with a letter stand...

1. Kate bought a hat that costs 12 dollars and a watch that costs 20 dollars. At the counter she received a discount. If she paid only 30 dollars, how many dollars was the discount?
2. Wyatt bought a jacket that costs 12 dollars and a scarf that costs 18 dollars. At the counter he received a discount. If he paid only 21 dollars, how many dollars was the discount?
3. The Carson family drove a total of 482 miles, starting on Friday and ending on Sunday. They drove 138 miles on Friday and 225 miles on Saturday. How many miles did they drive on Sunday?
Choose one: [119 | 121 | 363 | 745]
4. A bake sale has 3 cakes for sale. Each cake was cut into 4 slices. Each slice was sold for \$9. What was the total amount earned for the sale of all the cakes?
5. Oliver bought a scarf that costs 8 dollars and a watch that costs 9 dollars. At the counter he received a discount. If he paid only 13 dollars, how many dollars was the discount?
6. A stick is 5 m long. A rope is 12 times as long as the stick. If the rope is divided into 3 pieces, how many meters long is each piece of rope?
7. The Edwards family drove a total of 687 miles, starting on Friday and ending on Sunday. They drove 250 miles on Friday and 275 miles on Saturday. How many miles did they drive on Sunday?
Choose one: [121 | 162 | 124 | 164]
8. The Fickett family drove a total of 587 miles, starting on Friday and ending on Sunday. They drove 182 miles on Friday and 260 miles on Saturday. How many miles did they drive on Sunday?
Choose one: [139 | 164 | 145 | 102]

Study Island

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Factors and Multiples

1. Haley has five times as many stuffed animals as she does dolls. Her brother has 15 more video games than Haley has stuffed animals. If Haley has 15 dolls, how many video games does her brother have?

- ☐ A. 230
- ☐ B. 35
- ☐ C. 30
- ☐ D. 90

2. Riverside College had 4,657 students enrolled last year. Of those students, 1,018 graduated and left. If there are 1,106 new students this year, how many students are enrolled at Riverside College this year?

- ☐ A. 2,533
- ☐ B. 4,569
- ☐ C. 6,781
- ☐ D. 4,745

3. Jackie has 23 blue forks and 21 red forks. She is dividing the forks among 5 tables. If each table will get the same number of forks, how many forks will be left over?

- ☐ A. 3
- ☐ B. 4
- ☐ C. 2
- ☐ D. 1

4. Freddy bought 3 bags of pebbles to put in his fish tank. Each bag contains 276 pebbles. After he put the right amount of pebbles in his fish tank, he had 139 pebbles left over. How many pebbles did he put in his fish tank?



Determine which letter best represents the equation to solve the problem.

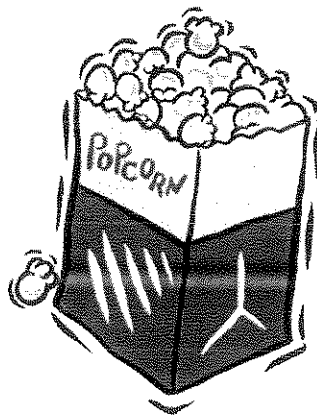
Answers

- 1) For a potluck lunch Lana brought five bottles of soda. If someone else had already brought nine sodas, how many were there total?
A. $5 + 9$ C. 5×9
B. $5 - 9$ D. $5 \div 9$
- 2) An industrial machine made sixteen shirts. If it takes eight minutes to make each shirt, how many minutes was it working?
A. $16 + 8$ C. 16×8
B. $16 - 8$ D. $16 \div 8$
- 3) A delivery driver had to make six more stops on his route. At each stop he had to drop off seven boxes. How many boxes does he have?
A. $6 + 7$ C. 6×7
B. $6 - 7$ D. $6 \div 7$
- 4) For Lana's birthday she received five dollars from her friends and eight dollars from her relatives. How much money did she get for her birthday?
A. $5 + 8$ C. 5×8
B. $5 - 8$ D. $5 \div 8$
- 5) Isaac was yard sale shopping. He ended up buying nine video games, but only four of them worked. How many bad games did he buy?
A. $9 + 4$ C. 9×4
B. $9 - 4$ D. $9 \div 4$
- 6) Vince was reading through his favorite book series. He had sixty-four books to read total. If he read eight books each week, how many weeks would it take him to finish the series?
A. $64 + 8$ C. 64×8
B. $64 - 8$ D. $64 \div 8$
- 7) Amy bought six music albums online. If each album had five songs, how many songs did she buy total?
A. $6 + 5$ C. 6×5
B. $6 - 5$ D. $6 \div 5$
- 8) For the new school year Nancy's mom bought fifteen glue sticks. If each class needs three glue sticks, how many classes does Nancy have?
A. $15 + 3$ C. 15×3
B. $15 - 3$ D. $15 \div 3$
- 9) Isaac played six games of basketball with his friends. If Isaac scored five points each game, how many points did he score total?
A. $6 + 5$ C. 6×5
B. $6 - 5$ D. $6 \div 5$
- 10) Amy bought five pencils at the school store, but she already had six pencils. How many pencils does she have total?
A. $5 + 6$ C. 5×6
B. $5 - 6$ D. $5 \div 6$
- 11) On the last day of school only sixteen students showed up. If eight of them were checked out early, how many students were left?
A. $16 + 8$ C. 16×8
B. $16 - 8$ D. $16 \div 8$
- 12) Larry's Lawn Care charges three bucks to mow the lawn. If Vince has his lawn mowed three times, how much money did he spend?
A. $3 + 3$ C. 3×3
B. $3 - 3$ D. $3 \div 3$
- 13) At the state fair Henry spent nine tickets on the roller coaster and six tickets on the ferris wheel. How many tickets did he spend total?
A. $9 + 6$ C. 9×6
B. $9 - 6$ D. $9 \div 6$
- 14) Isaac was trying on his old winter clothes. He tried on ten sweaters, but six of them were too small. How many did he have that fit?
A. $10 + 6$ C. 10×6
B. $10 - 6$ D. $10 \div 6$

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

Name: _____

The Parkview Movie Theatre sold 613 tubs of popcorn Thursday night. The Lakeside Movie Center sold 419 tubs of popcorn Thursday night. Parkview Movie Theatre will need 3 times as many tubs of popcorn for Friday night, and Lakeside Movie Theatre will need 5 times as many tubs for Friday night. Which theatre will need more tubs of popcorn? How many more tubs of popcorn will that theatre need? Explain your problem-solving process.



Name: _____

1. Circle the numbers that are prime. Underline the numbers that are composite.

21

79

27

81

102

19

76

3

11

69

2. Write the following as a number sentence and and create a word problem for each.

A. 7 is 2 into 14.

B. 85 is 5 times as many as 17

3. Which of the following sets are multiples of 6. (choose ALL that apply)

A. 1, 2, 3, 6

B. 6, 18, 24, 36

C. 12, 16, 30, 42

D. 24, 30, 36, 42

E. 3, 6, 9, 12

4. Write the fact family for the array below

A.

C.

B.

D.

Cards

Kenneth read twice as many books over the summer as his friend Jackson. If Kenneth read 24 books, how many books did Jackson read?	$t + 5 = 65$	41
The temperature outside during recess was 65° . That was 5 degrees warmer than it was when Crystal arrived at school. What temperature was it when Crystal got to school?	$b \times 2 = 24$	13
Amanda has read 24 pages in her book. There are a total of 65 pages in her book. How many more pages does Amanda need to read?	$5 \times p = 65$	60
There were 5 teams competing in a softball tournament. There were a total of 65 players. If each team had the same number of players, how many players were on each team?	$24 + p = 65$	12

Problem	Number Sentence	Answer

Prime and Composite Numbers

A prime number is a whole number greater than 1 that has exactly two factors, 1 and the number itself.

A composite number is a whole number greater than 1 that has more than two factors.

You can use division to find the factors of a number and tell whether the number is prime or composite.

Tell whether 55 is prime or composite.

Use division to find all the numbers that divide into 55 without a remainder. Those numbers are the factors of 55.

$55 \div 1 = 55$, so 1 and 55 are factors.

$55 \div 5 = 11$, so 5 and 11 are factors.

The factors of 55 are 1, 5, 11, and 55.

Because 55 has more than two factors, 55 is a composite number.

Tell whether 61 is prime or composite.

Use division to find all the numbers that divide into 61 without a remainder. Those numbers are the factors of 61.

$61 \div 1 = 61$, so 1 and 61 are factors.

There are no other numbers that divide into 61 evenly without a remainder.

The factors of 61 are 1 and 61.

Because 61 has exactly two factors, 61 is a prime number.

Tell whether the number is prime or composite.

1. 44

Think: Is 44 divisible by any number other than 1 and 44?

2. 53

Think: Does 53 have other factors besides 1 and itself?

3. 12

4. 50

5. 24

6. 67

7. 83

8. 27

9. 34

10. 78

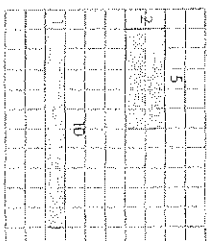
1. Ms. Chan asked Dwight if 6 is a prime number or a composite number. How should he answer?

- (A) 6 is composite.
(B) 6 is prime.
(C) 6 is neither prime nor composite.
(D) 6 is both prime and composite.

2. In a math game, Rob reads four statements about the number 51. He has to pick the true statement to win the game. Which statement should Rob choose?

- (A) 51 is divisible by 2.
(B) 51 is divisible by 3.
(C) 51 is divisible by 5.
(D) 51 is a prime number.

3. Elina used 10 tiles in the shape of a rectangle to make a design. She drew a model of the design.



What can Elina conclude about the number 10 from her model?

- (A) 10 is a prime number.
(B) 10 is a composite number.
(C) 10 is neither prime nor composite.
(D) 10 is both prime and composite.
4. Maria's friend wrote 4 numbers and asked Maria to identify the prime number. Which is the prime number?
- (A) 21 (B) 23 (C) 25 (D) 27

5. Ramon tells his friend that he is learning about prime numbers in math class. His friend asks him to name all the prime numbers between 20 and 30. What numbers should Ramon name? Explain how you know.

Name _____

Factors and Multiples

COMMON CORE STANDARD CCA.04.4
Lesson 11
 Lesson Objective: Understand the relationship between factors and multiples, and determine whether a number is a multiple of a given number.

You know that $1 \times 10 = 10$ and $2 \times 5 = 10$.

So, 1, 2, 5, and 10 are all factors of 10.

You can skip count to find multiples of a number:

Count by 1s: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, ...

Count by 2s: 2, 4, 6, 8, 10, 12, ...

Count by 5s: 5, 10, 15, 20, 25, ...

Count by 10s: 10, 20, 30, 40, ...

Note that 10 is a multiple of 1, 2, 5, and 10. A number is a multiple of all of its factors.

A common multiple is a multiple of two or more numbers. So, 10 is a common multiple of 1, 2, 5, and 10.

1. Multiply to list the next five multiples of 3.

3

2. Multiply to list the next five multiples of 7.

7

Is the number a factor of 8? Write yes or no.

3. 2 4. 8 5. 15 6. 20

Is the number a multiple of 4? Write yes or no.

7. 2 8. 12 9. 16 10. 18

Name _____

Lesson 11
CCA.04.4

1. Paula is counting by 4s. Peter is counting by 4s. They pace the counting so that they will say the first common number together. What is the first number they both will say?

- (A) 16 (C) 45
 (B) 36 (D) 64

2. Ms. Ayers wrote a bonus problem on the board. If Jason correctly answers, he will get extra computer time. Jason must write a statement that correctly relates the numbers 5 and 10. Which statement should Jason write?

- (A) 5 is a multiple of 10.
 (B) 10 is a factor of 5.
 (C) 10 is a common multiple of 5 and 10.
 (D) 15 is a common multiple of 5 and 10.

3. Roger bought some boxes of pencils. There were 3 pencils in each box. Which could be the number of pencils he bought?

- (A) 16 (C) 25
 (B) 21 (D) 32

4. Manny makes dinner using 1 box of pasta and 1 jar of sauce. If pasta is sold in packages of 6 boxes and sauce is sold in packages of 3 jars, what is the least number of dinners that Manny can make without any supplies left over?

- (A) 3 (B) 6
 (C) 9 (D) 18

Problem Solving

5. Ken paid \$12 for two magazines. The cost of each magazine was a multiple of \$3. What are the possible prices of the magazines?

6. Jodie bought some shirts for \$6 each. Marge bought some shirts for \$8 each. The girls spent the same amount of money on shirts. What is the least amount they could have spent?

Lesson 4

COMMON CORE STANDARD CC4.OA.4
Lesson Objective: Determine whether a number is a factor of a given number.

Factors and Divisibility

A number is divisible by another number if the quotient is a counting number and the remainder is 0.
You can decide if a number is divisible by 2, 3, 5, 6, or 9 by using divisibility rules instead of dividing. Divisibility rules help you decide if one number is a factor of another.

Is 39 divisible by 2, 3, 5, 6, or 9?

Result	Conclusion	Divisibility Rules
$39 \div 2$ 19 r1	39 is not divisible by 2.	The last digit, 9, is not even, so 39 is not divisible by 2.
$39 \div 3$ 13 r0	39 is divisible by 3.	The sum of the digits, $3 + 9 = 12$, is divisible by 3, so 39 is divisible by 3.
$39 \div 5$ 7 r4	39 is not divisible by 5.	The last digit, 9, is not a 0 or 5, so 39 is not divisible by 5.
$39 \div 6$ 6 r3	39 is not divisible by 6.	39 is not divisible by both 2 and 3, so it is not divisible by 6.
$39 \div 9$ 4 r3	39 is not divisible by 9.	The sum of the digits, $3 + 9 = 12$, is not divisible by 9, so 39 is not divisible by 9.

39 is divisible by 3.
So, 3 is a factor of 39.

Use the chart to tell whether 30 is divisible by each divisor. Explain.

	Result	Conclusion (yes/no)	Explanation
1. $30 \div 2$			
2. $30 \div 3$			
3. $30 \div 5$			
4. $30 \div 6$			
5. $30 \div 9$			

Is 4 a factor of the number? Write yes or no.

6. 81 7. 24

8. 56

Lesson 4
CC4.OA.4

1. Mariska was decorating her room. She arranged 63 picture tiles on a wall in the shape of a rectangle. How many rows of tiles could be on the wall?

- Ⓐ 2
Ⓑ 5
Ⓒ 6
Ⓓ 9

3. Jorge gives an equal number of marbles to 6 friends. Which could be the total number of marbles he gave to his friends?

- Ⓐ 15
Ⓑ 33
Ⓒ 56
Ⓓ 60

2. Janice spent \$24 to buy some pairs of pants. Each pair of pants cost the same whole-dollar amount. How many pairs of pants could she have bought?

- Ⓐ 3 Ⓒ 5
Ⓑ 4 Ⓓ 7

4. Lee and 4 friends want to play marbles. Lee has 40 marbles to share among them. All players must have the same number of marbles to start the game. How many marbles should each player get?

- Ⓐ 5 Ⓒ 10
Ⓑ 8 Ⓓ 20

Problem Solving

5. Bryson buys a bag of 64 plastic miniature dinosaurs. Could he distribute them equally into six storage containers and not have any left over? Explain.

6. Lofi wants to distribute 35 peaches equally into baskets. She will use more than 1 but fewer than 10 baskets. How many baskets does Lofi need?

Divide Using Repeated Subtraction

Lesson 42

COMMON CORE STANDARD CC.ANT.6
Lesson Objective: Use repeated subtraction and multiples to find products.

You can use repeated subtraction to divide. Use repeated subtraction to solve the problem.

Nestor has 27 shells to make bracelets. He needs 4 shells for each bracelet. How many bracelets can he make?

Divide: $27 \div 4$

Write $4 \overline{)27}$.

Step 1

Subtract the divisor until the remainder is less than the divisor. Record a 1 each time you subtract.

$$\begin{array}{r} 4 \overline{)27} \\ \underline{-4} \\ 23 \\ \underline{-4} \\ 19 \\ \underline{-4} \\ 15 \\ \underline{-4} \\ 11 \\ \underline{-4} \\ 7 \\ \underline{-4} \\ 3 \end{array} \quad \begin{array}{l} 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \\ 1 \end{array}$$

Step 2

Count the number of times you subtracted the divisor, 4. 4 is subtracted six times with 3 left.

$$\begin{array}{r} 27 \\ \underline{6 \times 4} \\ 3 \end{array}$$

So, Nestor can make 6 bracelets. He will have 3 shells left.

Use repeated subtraction to divide.

1. $30 \div 4$ _____

2. $24 \div 5$ _____

3. $47 \div 7$ _____

Lesson 42

CC.ANT.6

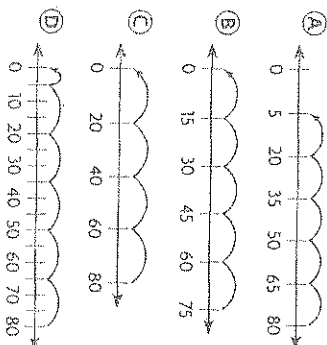
1. There are 60 people waiting for a river raft ride. Each raft holds 15 people. Which number sentence can be used to find how many rafts will be needed?

- (A) $60 - 15 - 15 - 15 - 15 = 0$
- (B) $60 - 15 = 45$
- (C) $60 \div 15 = 75$
- (D) $60 - 30 - 15 = 15$

2. There are 48 people waiting for a fishing tour. Each tour boat holds 12 people. Which number sentence can be used to find how many boats will be needed?

- (A) $12 + 48 = 60$
- (B) $48 - 12 = 36$
- (C) $48 - 24 = 24$
- (D) $48 - 12 - 12 - 12 - 12 = 0$

3. Jessie has 80 rubber bracelets. She arranges the bracelets in piles of 4. Which model shows $80 \div 4$?



Problem Solving

4. Gretchen has 48 snail shells. She uses 2 shells to make one pair of earrings. How many pairs of earrings can she make?

5. James wants to purchase a telescope for \$54. If he saves \$3 per week, in how many weeks will he have saved enough to purchase the telescope?

Name _____

Remainders

Lesson 38

COMMON CORE STANDARD CC.4.NBT.6
Lesson Objective: Use models to divide whole numbers by a one-digit whole number.

Use counters to find the quotient and remainder.

$$9 \overline{)26}$$

- Use 26 counters to represent the dividend, 26.
- Since you are dividing 26 by 9, draw 9 circles. Divide the 26 counters into 9 equal-sized groups.
- There are 2 counters in each circle, so the quotient is 2. There are 8 counters left over, so the remainder is 8.

$$9 \overline{)26} \quad \begin{array}{r} 2 \\ \times 9 \\ \hline 18 \end{array}$$

Divide. Draw a quick picture to help.

$$7 \overline{)66}$$

- Use 66 counters to represent the dividend, 66.
- Since you are dividing 66 by 7, draw 7 circles. Divide 66 counters into 7 equal-sized groups.
- There are 9 counters in each circle, so the quotient is 9. There are 3 counters left over, so the remainder is 3.

$$9 \overline{)13}$$

Use counters to find the quotient and remainder.

$$1. \quad 6 \overline{)19}$$

$$2. \quad 3 \overline{)14}$$

Divide. Draw a quick picture to help.

$$3. \quad 39 \div 4$$

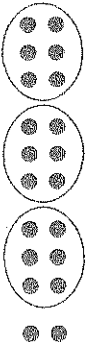
$$4. \quad 29 \div 3$$

Name _____

Lesson 38

CC.4.NBT.6

1. Look at the model. What division does it show?



- Ⓐ $6 \div 3$ Ⓒ $18 \div 3$
Ⓑ $6 \div 4$ Ⓓ $20 \div 3$

2. Ed used counters to model $4 \overline{)19}$. What quotient and remainder did he find?

- Ⓐ quotient: 5 remainder: 1
Ⓑ quotient: 4 remainder: 3
Ⓒ quotient: 4 remainder: 2
Ⓓ quotient: 3 remainder: 7

3. Margie arranged 40 counters into 6 groups of 6. There were 4 counters left over. What quotient and remainder did she model?

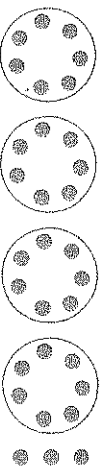
- Ⓐ quotient: 7 remainder: 2
Ⓑ quotient: 6 remainder: 5
Ⓒ quotient: 6 remainder: 4
Ⓓ quotient: 6 remainder: 2

4. Look at the model. What division does it show?



- Ⓐ $4 \div 3$ Ⓒ $12 \div 3$
Ⓑ $12 \div 4$ Ⓓ $13 \div 3$

5. Stefan says this quick picture shows $31 \div 4$. Is he correct? What other division does the picture model? Explain.



Name _____

Interpret the Remainder

Lesson 6
COMMON CORE STANDARD: CC.4.OA.3
Lesson Objective: Use remainders to solve division problems.

When you solve a division problem with a remainder, the way you interpret the remainder depends on the situation and the question.

<p>Way 1: Write the remainder as a fraction. Callee has a board that is 60 inches long. She wants to cut 8 shelves of equal length from the board and use the entire board. How long will each shelf be? Divide: $60 \div 8$ <u>7 r4</u> The remainder, 4 inches, can be divided into 8 equal parts. $\frac{4}{8}$ ← remainder 8 ← divisor Write the remainder as a fraction. Each shelf will be <u>$7\frac{4}{8}$</u> inches long.</p>	<p>Way 2: Drop the remainder. Callee has 60 beads. She wants to make 8 identical bracelets and use as many beads as possible on each bracelet. How many beads will be on each bracelet? Divide: $60 \div 8$ <u>7 r4</u> The remainder is the number of beads left over. Those beads will not be used. Drop the remainder.</p>
<p>Way 3: Add 1 to the quotient. Callee has 60 beads. She wants to put 8 beads in each container. How many containers will she need? Divide: $60 \div 8$ <u>7 r4</u> The answer shows that Callee can fill 7 containers but will have 4 beads left over. She will need 1 more container for the 4 leftover beads. Add 1 to the quotient. Callee will need <u>8</u> containers.</p>	<p>Way 4: Use only the remainder. Callee has 60 stickers. She wants to give an equal number of stickers to 8 friends. She will give the leftover stickers to her sister. How many stickers will Callee give to her sister? Divide: $60 \div 8$ <u>7 r4</u> The remainder is the number of stickers left over. Use the remainder as the answer. Callee will give her sister <u>4</u> stickers.</p>

- There are 35 students going to the zoo. Each van can hold 6 students. How many vans are needed?
- Sue has 55 inches of ribbon. She wants to cut the ribbon into 6 equal pieces. How long will each piece be?

Name _____

Lesson 6
CC.4.OA.3

- A group of 40 people takes the swan boat ride. Each boat can carry 6 people. If the guide fills as many boats as possible, how many people will ride in the last boat?
 (A) 34
 (B) 7
 (C) 6
 (D) 4
- Yanna uses thank-you notes that come in packs of 8. She has to write 29 thank-you notes. How many packs of thank-you notes should she buy?
 (A) 3
 (B) $3\frac{5}{8}$
 (C) 4
 (D) 5
- Notan divides his 88 toy cars into boxes. Each box can hold 9 cars. How many boxes can Notan fill?
 (A) 7
 (B) 9
 (C) 10
 (D) 12
- Selinn puts 30 ounces of trail mix equally into 9 bags. How many ounces will be in each bag?
 (A) 4 ounces
 (B) $3\frac{1}{3}$ ounces
 (C) 3 ounces
 (D) $2\frac{1}{3}$ ounces

Problem Solving

- Joanna has 70 beads. She uses 8 beads for each bracelet. She makes as many bracelets as possible. How many beads will Joanna have left over?
- A teacher wants to give 3 markers to each of her 25 students. Markers come in packages of 8. How many packages of markers will the teacher need?

Name: _____

Number Sentences

Directions: Use opposite operations to solve the problems below. Circle the letter of the best answer.

1. Which number makes the sentence true?

$$y + (6 + 3) = 18$$

- A. 6
- B. 9
- C. 27
- D. 54

4. Which number makes the sentence true?

$$b + (3 \times 2) = 60$$

- A. 10
- B. 54
- C. 66
- D. 360

2. Which number makes the sentence true?

$$(6 \times 7) + e = 50$$

- A. 8
- B. 37
- C. 47
- D. 92

5. Which number makes the sentence true?

$$2 + d = (15 \div 5)$$

- A. 1
- B. 3
- C. 5
- D. 6

3. Which number makes the sentence true?

$$g \div (12 - 8) = 4$$

- A. 0
- B. 4
- C. 8
- D. 16

6. Which number makes the sentence true?

$$f \times (4 \times 2) = 64$$

- A. 7
- B. 8
- C. 56
- D. 512

7. Which number makes the sentence true?

$$p \div (10 \times 10) = 5$$

- A. 20
- B. 100
- C. 105
- D. 500

8. Which number makes the sentence true?

$$(6 \times 5) = 10 \times a$$

- A. 3
- B. 20
- C. 40
- D. 400

9. Which number makes the sentence true?

$$6 + (5 + 4) = w - 1$$

- A. 14
- B. 15
- C. 16
- D. 17

10. Which number makes the sentence true?

$$j + 3 = (2 \times 7)$$

- A. 5
- B. 11
- C. 17
- D. 42

11. Which number makes the sentence true?

$$(8 \times 3) + 3 = 9 \times h$$

- A. 3
- B. 4
- C. 18
- D. 243

12. Which number makes the sentence true?

$$(10 + 25) = 5 \times n$$

- A. 7
- B. 8
- C. 30
- D. 40

Name: _____

Number Sentences

Directions: Choose the number sentence that describes each problem below. Circle the letter of your answer.

1. Caroline has 3 times as many lollipops as Anne. If Caroline has 45 lollipops, how many lollipops does Anne have?
 - A. $3 \times a = 45$
 - B. $45 \times 3 = a$
 - C. $a \times 45 = 3$
 - D. $3 + a = 45$

2. There were a total of 540 people that went to a concert Friday and Saturday. If 258 people went to the concert on Friday, how many people went on Saturday?
 - A. $540 + 258 = p$
 - B. $540 - p = 258$
 - C. $p - 258 = 540$
 - D. $p + 540 = 258$

3. The sale price of a pair of shoes was \$30. If the regular price of the shoes was \$48, how much was the discount?
 - A. $30 + s = 48$
 - B. $48 + 30 = s$
 - C. $30 - s = 48$
 - D. $48 \div s = 30$

Directions: Use opposite operations to solve the problems below. Circle the letter of the best answer.

4. Which number makes the sentence true?

$$3 \times y = 18$$

- A. 6
- B. 9
- C. 15
- D. 54

7. Which number makes the sentence true?

$$72 \div n = 9$$

- A. 8
- B. 12
- C. 63
- D. 648

5. Which number makes the sentence true?

$$16 + h = 28$$

- A. 10
- B. 12
- C. 44
- D. 448

8. Which number makes the sentence true?

$$m - 38 = 112$$

- A. 74
- B. 126
- C. 140
- D. 150

6. Which number makes the sentence true?

$$g \div 12 = 4$$

- A. 3
- B. 4
- C. 36
- D. 48

9. Which number makes the sentence true?

$$20 \times d = 140$$

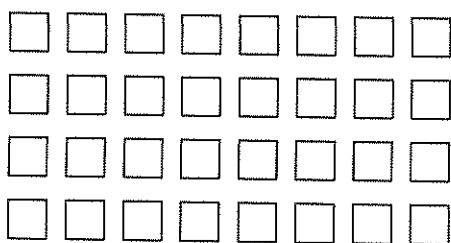
- A. 7
- B. 70
- C. 120
- D. 2,800

Unit 3 Test A Review**Multiple Choice**

Identify the letter of the choice that best completes the statement or answers the question.

- _____ 1. Which number sentence is equal to $3 \times 7 = 21$?
- a. $7 + 3 = 21$ c. $7 + 7 = 21$
b. $7 + 7 + 7 = 21$ d. $3 + 3 + 3 = 21$
- _____ 2. Which number sentence is equal to $3 + 3 + 3 + 3 + 3 = 15$?
- a. $5 \times 5 = 15$ c. $3 \times 3 = 15$
b. $9 \times 3 = 15$ d. $5 \times 3 = 15$

- _____ 3. Which multiplication sentence is shown by the array?



- a. $3 \times 10 = 30$ b. $4 + 8 = 12$ c. $4 \times 8 = 32$ d. $4 \times 7 = 28$
- _____ 4. You may use a picture to solve.
Jasmine picked 9 flowers. Joshua picked 3 times as many. How many flowers did Joshua pick?
- a. 3 flowers b. 12 flowers c. 27 flowers d. 30 flowers
- _____ 5. There are 2 Senators from each state in the United States Senate. How many Senators are there from 6 states?
- a. 18 Senators c. 8 Senators
b. 12 Senators d. 4 Senators
- _____ 6. Benjamin knows $2 \times 7 = 14$. How can he use this to find 3×7 ?
- a. Add $14 + 14$. c. Add $14 + 3$.
b. Add $7 + 7$. d. Add $14 + 7$.
- _____ 7. Mrs. May is making costumes for a school play. She needs 6 yards of fabric for each costume. How many yards of fabric does she need in order to make 5 costumes?
- a. 11 yards b. 24 yards c. 30 yards d. 40 yards
- _____ 8. Spiders are a type of arachnid. Arachnids normally have 8 legs. How many legs would you count on 8 spiders?
- a. 64 legs b. 56 legs c. 16 legs d. 8 legs
- _____ 9. Which product is less than 4×8 ?
- a. 4×9 b. 4×10 c. 4×6 d. 8×4

- ____ 10. Which two number sentences could be used to help find 9×12 ?
- a. $9 \times 10 = 90$ and $9 \times 2 = 18$ c. $9 \times 10 = 90$ and $9 \times 9 = 81$
b. $9 \times 1 = 9$ and $9 \times 2 = 18$ d. $9 \times 10 = 90$ and $9 + 12 = 21$
- ____ 11. Find the product.
 11×10
- a. 11 b. 21 c. 110 d. 121
- ____ 12. A complete dinner at a neighborhood restaurant costs \$11. Coach Jackson paid for 4 dinners. What was the total cost?
- a. \$11 b. \$15 c. \$40 d. \$44
- ____ 13. Complete the table to solve the problem.

Jose mixes 2 drops of red paint with 5 drops of yellow paint to get an orange color. How many drops of yellow will he add if he uses 10 drops of red?

Drops of Red	2	4	6					
Drops of Yellow	5	10						

- a. 20 drops b. 25 drops c. 26 drops d. 30 drops
- ____ 14. Which number sentence is part of the fact family for 7, 5, and 35?
- a. $35 - 5 = 30$ b. $35 \times 7 = 245$ c. $35 \div 7 = 5$ d. $5 \times 5 = 25$
- ____ 15. Which of the following is NOT part of the same fact family?
- a. $2 \times 5 = 10$ b. $10 - 2 = 8$ c. $5 \times 2 = 10$ d. $10 \div 5 = 2$
- ____ 16. Write a multiplication story for 5×4 .
- a. Vin has 20 goldfish to put in 4 bowls. How many fish will he put in each bowl?
- b. Vin has 5 goldfish in one bowl and 4 goldfish in the other. How many goldfish does he have in all?
- c. Vin has 20 goldfish. He put 5 in one bowl. How many goldfish does he have left to put in the other bowl?
- d. Vin has 5 goldfish bowls with 4 fish in each bowl. How many fish does he have in all?
- ____ 17. Adriana wrote the following multiplication story. Which fact did she use to write her story?
- Yuji bought 2 bags of oranges. Each bag had 8 oranges.
How many oranges did he buy in all?*
- a. 2×8 b. 2×6 c. 8×8 d. 2×2

Name: _____

ID: A

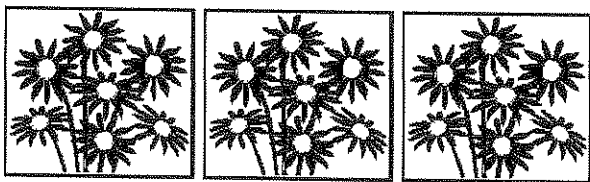
18. Danielle wrote the following multiplication story. Which fact did she use to write her story?

A water molecule is made with 1 oxygen atom and 2 hydrogen atoms. Mr. Tiffany's class is making water molecule models out of styrofoam balls. If they use 2 small styrofoam balls to represent the hydrogen atoms, how many small styrofoam balls will they need to make 4 water molecules?

- a. 1×2 b. 2×2 c. 4×2 d. 1×4

Other

19. Complete the number sentences to show two ways to find the total number of flowers.



___ + ___ + ___ = ___

___ \times ___ = ___

Explain how the factors in multiplication are related to adding equal groups.

20. Each day Sho saves twice as many pennies as he saved the day before.

First day: 

How many pennies did he save on the sixth day?

Show All Work

Answer _____ pennies

Name : _____

Score : _____

Teacher : _____

Date : _____

Multiplication Times Table (1 - 10)

X	1	2	3	4	5	6	7	8	9	10
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

